

ABSTRACT

A cryogenic coupling device includes a valved receptacle and a valved nozzle. Rollers in an outer collar of the receptacle are received in helical channels along a collar of the nozzle. A notch or detent in each of the channels provides a vent position to vent fluid before the nozzle is fully disconnected from the receptacle. Interface seals on the nozzle include first and second annular seals that function as ice and containment scrapers, as well as fluid seals. The nozzle has a rotatable handle assembly, isolated from the fluid path, which provides easy connect and disconnect of the nozzle from the receptacle. The handle assembly includes a thermal break, and is easily removable from the nozzle, along with other parts of the nozzle and receptacle, for service and maintenance.